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AGRICULTURE

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I. GENERAL INFORMATION

'RENMIN RIBAO' INTERVIEWS AGRICULTURE OFFICIAL

HK051322 Beijing RENMIN RIBAO in Chinese 25 Feb 82 p 2

[Interview with leading member of the Ministry of Agriculture by RENMIN RIBAO reporter: "How Do We Achieve a Still Bigger Bumper Harvest This Year?"]

[Text] A responsible member of the Ministry of Agriculture recently answered questions put by our reporter on how to achieve a bigger bumper harvest this year.

Question: This year, the state has set new and higher demands on the development of agriculture. What are these demands based on? How are conditions for a bumper harvest this year?

Answer: At the fourth session of the Fifth NPC, Premier Zhao Ziyang put forth a proposal on developing the rural economy. We must implement the policy of "not slackening our efforts in grain production and actively developing a diversified economy." This policy requires that this year we strive for a higher grain output than the previous highest level, and continue the all-round development of cash crops, forestry, animal husbandry and fishery as well as a diversified economy and commune- and brigade-run enterprises. It also requires us to actively improve economic results and contribute to increasing production and income. The achievement of this goal will provide a better material foundation for readjusting and restructuring the national economy and will also further improve the livelihood of the broad masses of peasants.

It is entirely possible to achieve the demands for the development of agriculture set by the state this year. Since the 3d Plenary Session of the 11th CCP Central Committee, the policies and principles on developing the rural economy have fully aroused the enthusiasm of the peasants in their hundreds of million. Following the stabilizing and perfecting of the responsibility system, the superiority of the unified management of the collective economy and the enthusiasm of individual commune members will be better integrated. Several consecutive years of bumper harvests have greatly increased the capability for expanded reproduction in the countryside. The agricultural capital construction base and the large number of scientific achievements

developed over the years will play an even greater role. The state has also strengthened material and technological support to agriculture. This year, the state has increased the supply of chemical fertilizer to the countryside and also improved the quality and arrangement of varieties. The state has strengthened the training of technical backbones and numerous agricultural scientists and technicians are active in the frontline of agricultural production to provide timely technical guidance to agricultural production. There is political stability in the countryside at present, initial economic prosperity has appeared and the situation is very good. These are extremely favorable conditions for achieving a bigger bumper harvest this year.

Question: What will be the grain and edible oil production situation this summer? What are the problems we must concentrate on solving?

Answer: The harvest of summer grain and edible oil occupies an important position in annual agricultural production. The outstanding problems in this summer's grain and edible oil production are: the acreage sown to wheat has been reduced, the condition of the prewinter seedlings is not as good as that of last year and the major wheat-producing areas in the north are seriously affected by drought. At present, we are still 3 to 4 months away from the summer harvest, and it is still possible to improve the condition of the seedlings and achieve a bumper harvest. The weather has recently turned warm and the condition of the seedlings is beginning to improve. As long as we overcome the slackening of vigilance and the relaxation of efforts, further strengthen the responsibility system in wheatfield management, take a firm grip on management and conscientiously carry out the work of preventing and resisting natural disasters and guarding against "cold spells," it is entirely possible to achieve a bumper harvest in summer grain and edible oil.

Question: Why must we emphasize the strengthening of planning in agricultural production at present? How should we implement the state plan?

Answer: The present emphasis on this problem is because some localities have a tendency of carrying out free planting without paying attention to the state plan. In recent years, the party's relaxation of economic policies in the countryside has achieved remarkable results. Agricultural production has developed and the rural economy has been invigorated. However, what merits attention is that some comrades think they could do without the state plan after the implementation of the various forms of the production responsibility system. Some comrades erroneously think that respecting the decisionmaking power means they can slacken leadership and planned management. Therefore, in the arrangement of planting plans and requisition of agricultural sideline products, some localities do not think of the state and pay attention only to partial and individual interests. This is the problem appearing in our advance. However, if this is allowed to develop unchecked, it will invariably have an impact on the state plan and also affect the fundamental interests of the peasants. Therefore, we must emphasize adhering to the policy of taking planned economy as the primary factor and taking the regulatory role of market mechanism as the secondary factor.

The correct handling of the relations between grain production and a diversified economy is a key problem in strengthening state planned guidance at present. After several years of readjustment, the proportion of acreage sown with grain crops and with cash crops is already basically rational. At present, to guarantee the steady increase of grain production, we must stabilize the acreage sown with grain crops and must not make further reductions. Soybean is the principle source of plant protein required by our people. It is a traditional export product which should be actively developed. Among the cash crops, apart from cotton and sugar beets which can be planted on an increased scale in the north according to the state plan, the other crops, particularly rapeseed and tobacco, require us to strictly control the acreage planted and to put in a great deal of time and effort in improving unit yield and quality according to the state plan. The suburbs of major cities and factory and mining areas must adhere to the policy of giving priority to the production of vegetables, make a success of the planting of vegetables according to the state plan and guarantee market supply. Big and medium-size towns and factory and mining areas must be determined to quickly become self-sufficient in poultry, eggs and milk. We must conscientiously implement various pig-breeding policies, actively develop hog production and guarantee the fulfillment of assigned purchasing tasks. We must pay attention to developing and making use of mountainous regions, hilly areas, grasslands and water areas in developing a diversified economy.

Agricultural production must conform to the principle of giving priority to planned economy, but first of all, we must make a success of political and ideological work. We must thoroughly and meticulously carry out "pay attention to three things" propaganda and education among the basic-level cadres and peasants so that they will consciously integrate local interests with overall interests. At the same time, we must also adopt some appropriate economic measures. At present, some localities are practicing a system of economic contracts, or the state purchasing department is signing production, purchase, supply and marketing contracts with production teams for the purchase of agricultural sideline products and the supply of principal means of production. This is an important means of realizing the state plan. The signing of contracts will enable both the production and purchasing sides to supply each other with information, coordinate their interests and study ways of implementing the state plan together. We should conscientiously sum up this experience and actively and systematically popularize the contract system. For the sake of developing grain production, stabilizing the burden of the peasants and ensuring a balanced grain supply, the state has this year adopted the method of signing a grain contract with the provinces, municipalities and prefectures for a period of 3 years. All localities should firmly grasp the 3-year contract for the requisition of above-quota grain and implement it in the production teams so that the production units can make rational arrangements for planting.

Question: What are the aspects we should emphasize in carrying out our present work of perfecting the production responsibility system?

Answer: Perfecting the production responsibility system is a decisive link for achieving a bumper harvest this year. According to the spirit of the directive of the Central Committee and the practical experience of various localities, present efforts should be in the following four aspects:

1. We must conscientiously carry out propaganda and education of the "two adherences" to explain that our agriculture must adhere to the path of socialist collectivization and that, for a long time to come, there will be no change in the land system and such basic systems as public ownership of the means of production and production responsibility practiced by the collective economy. Regardless of the form of responsibility system which is adopted, as long as the masses do not want changes, there will be no changes. We must make the cadres and masses understand the orientation clearly and eliminate their fear of changes and misgivings.
2. We must adhere to the principle of providing systematic guidance in a manner suited to local conditions and help the production teams correctly handle the relations between unified management and the contract system so that both the superiority of unified management and the enthusiasm of individual commune members can be properly brought into play.
3. We must integrate perfecting the production responsibility system with developing a diversified economy, and the production teams must formulate plans for the all-round development of agriculture, animal husbandry, sideline production, fishery and a diversified economy in a manner suited to local conditions, select an appropriate form of the responsibility system and promptly shift surplus labor to the diversified economy and commune- and brigade-run enterprises in a planned manner.
4. We must strengthen the construction of basic-level organizations. We must quickly change those lax and weak basic-level organizations and the condition of there being nobody in charge of much of the work. We must educate the basic-level cadres to firmly grasp the implementation of production plans and the signing of economic contracts so as to better coordinate the tasks of the state plan with the production arrangements of the production teams.

Question: How can we properly carry out the work of promoting agricultural technology so as to satisfy the urgent demand of the broad masses of cadres and peasants for the study and application of science?

Answer: Technological promotion work is the key to changing the achievements of agricultural scientific research into direct productive forces. To further make a success of the promotion of agricultural technology, we must do a great deal of propaganda, educational and organizational work.

First, we must have a definite guiding ideology. We must fully give play to the role of our traditional agricultural technology. The achievements of modern science and technology we adopt must conform to the demands of economizing on investment, low energy consumption and high efficiency and must contribute to protecting the ecology and the environment.

We must conscientiously strengthen leadership over technological promotion work and strengthen the technological promotion organs at the county level. We must gradually exercise unified leadership over such agrotechnical

organizations as those engaged in technological promotion, crop protection and the use of indigenous fertilizer so that all techniques can be comprehensively applied to production. At present, various localities are experimenting with many forms of agrotechnical responsibility systems and technological contract systems with very good results. We should pay attention to summing up experiences and raising standards. We must adopt all effective forms, energetically publicize and popularize scientific and technological knowledge and instruct the peasants to plant crops, carry out irrigation, spread fertilizer and use farm chemicals rationally to raise economic results.

To strengthen agrotechnical promotion work, we must also conscientiously grasp agrotechnical training work. We must accelerate the speed of training and improve the quality of training.

Question: To achieve a bumper harvest this year, how can we ask various professions and trades to render better support?

Answer: Achieving a bumper harvest this year requires concerted effort from various agricultural, industrial and commercial sectors.

Agricultural departments must conscientiously change their style of work, strengthen investigation and study, promptly acquaint themselves with the new conditions and problems and act as staff officers to party committees and people's government at various levels. They must sum up and popularize scientific research achievements and advanced experiences in a manner suited to local conditions, strengthen technological guidance over medium and low-yield areas and properly manage and use the various funds and materials earmarked for agriculture. Supplying the means of production required by the countryside in sufficient quantity and quality in time for the farming season is an important guarantee for achieving a bumper harvest this year. The departments concerned have already carried out arrangements in this respect, and we hope that they will further make a success of the work. All localities must arrange and supply the fuel, electricity and other materials required for combating disasters as early as possible. At the same time, we hope that the departments concerned will open up channels for the flow of agricultural products, strengthen market control and help the countryside to develop commodity economy in a planned manner.

At present, party committees and people's governments at various levels have already taken positive actions and mobilized the broad masses of cadres and people to throw themselves into spring plowing. We firmly believe that as long as everybody heightens their fighting spirit and works solidly under the guidance of the line, policies and principles of the CCP Central Committee, we will certainly be able to fulfill and overfulfill the agricultural production tasks this year.

CSO: 4007/257

STATE COUNCIL CIRCULAR ON COTTON PRODUCTION SAFETY

OW040857 Beijing XINHUA Domestic Service in Chinese 0259 GMT 4 Mar 82

[Excerpts] Beijing, 4 Mar (XINHUA)--The general office of the State Council recently issued a circular calling on various localities to do the job of quarantining and preventing the fusarium wilt of cotton well.

The circular says: To insure the safety of cotton production, the following measures, as instructed by the leading comrades of the State Council, on the quarantine and prevention of fusarium wilt of cotton must be carried out:

1. Do propaganda work well to enable the leaders and masses in cotton producing areas to fully realize the serious damages that can be caused by the disease and the significance of quarantine work on seed treatment.
2. Before spring cotton sowing, the agricultural departments of the cotton producing provinces, municipalities and autonomous regions must thoroughly screen cottonseeds being brought in from infected areas. The disease carrying cottonseeds must be sterilized.
3. During the growth period, forces must be organized to investigate, in a planned way, the select areas where disease occurred.
4. Perfect the cottonseed control system.
5. The coordination group on the research of cotton fusarium wilt must regard the selection of high-yield, superior quality, fusarium resistant new seed strains and the study of seed and soil sterilization as major topics for research in order to better serve production.

CSO: 4007/157

STRENGTHENING OF RURAL COLLECTIVES URGED

OW190754 Beijing XINHUA in English 0742 GMT 19 Feb 82

[Text] Beijing, Feb 19 (XINHUA)--The new job responsibility system, now practiced in 90 percent of the rural production teams, does not mean a comeback of individual farming that used to be prevalent before collectivization in the 1950s, declares an editorial in today's PEOPLE'S DAILY.

The PEOPLE'S DAILY, says, this system is instituted on the basis of collective ownership of the means of production. In other words, the production teams continue to own the farmland, large farm machines and implements and water conservancy projects. They must see to it that farm production, though undertaken mainly on a household basis, proceeds under the guidance of state planning, it says.

The new job responsibility system, which aims at eliminating egalitarianism that used to be prevalent in the countryside, "has enabled peasants in traditionally poverty-stricken areas to produce enough for themselves and peasants in well-to-do areas to produce still more," the editorial notes.

Nevertheless, there is a misunderstanding among some rural cadres that they now have nothing to do under the new job responsibility system, it says. It also calls attention to the fact that in the opinion of some peasants, rural cadres are useless since the household has in the main become the basic unit of production.

The editorial reiterates the policy of upholding socialist collectivization and public ownership of the means of production while pushing the job responsibility system in farm production and of integrating the interests of the state, the rural collectives and individual peasants.

The editorial lists the major tasks of the production teams as the mainstay of the rural collective economy. These include: managing collective property, fixing production responsibility among team members, planning production and farmland capital construction and popularizing better farming methods.

In addition, the teams must properly arrange the livelihoods of people in need of help, including the elderly who have no children or relatives and families of servicemen and families of those killed in wars, it says.

The editorial calls attention to the "urgent task" of training rural cadres in skills for the new situation. Beginning now, it proposes, rural cadres should be rotated through training sessions run during slack seasons.

CSO: 4020/103

BRIEFS

RICE PRODUCTION--The peasants in Chaohu Prefecture, Anhui Province, will strive to increase rice production and stop wanton expansion of rapeseed this year. They will expand the total acreage of cross-bred rice from 150,000 mu in last year to 500,000 mu this year and increase the output of rice by more than 70 million jin. They will also expand the total acreage of double-cropping rice to 2 million mu and expect to increase the total output of double-cropping rice by more than 130 million jin. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 23 Feb 82 OW]

GRAIN PRODUCTION--The peasants in Anqing Prefecture, Anhui Province, reaped more than 3.8 billion jin of grain in 1981. They will expand the total acreage of early rice to 2.5 million mu this year and expect to reap 3.9 billion jin of grain in 1982. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 23 Feb 82 OW]

TREE-PLANTING ACTIVITIES--Hefei, 20 Feb (XINHUA)--Hefei Municipality of Anhui Province has made a decision to implement throughout the city a system of responsibility in planting trees in the urban areas to make the city green. The system calls for "planting, protecting and assuring the survival of trees." Those units and individuals that have done a good job in fulfilling the task will be commended and awarded while those that fail to do so without reason will be criticized and given economic punishment. This decision was announced at a meeting held on 16 February to commend advanced units in promoting the citywide campaign for voluntary tree-planting to make Hefei Municipality green. Zhang Jingfu, first secretary of the Anhui Provincial CCP Committee, attended the meeting. Speaking at the meeting, he said that planting trees to make the environment green is a primary and essential task in promoting spiritual civilization. He expressed his wishes to be a volunteer to work with all citizens to promote the task of making Hefei green. After the meeting, provincial and municipal leading comrades of the party, government and army led some 1,200 cadres from various organs to join tree-planting activities along the Nanhucheng River and at the ends of the Tongcheng Road bridge in Hefei Municipality. [Excerpts] [OW201159 Beijing XINHUA Domestic Service in Chinese 0120 GMT 20 Feb 82]

FUJIAN

BRIEFS

MARINE PRODUCTS--Fujian Province made new progress in the cultivation of marine products in 1981. The total area under cultivation reached 360,000 mu, topping 1980 by more than 30,000 mu. The total output will reach 2.27 million dan, topping 1980 by 40,000 dan. The output of razor clams, kep and saltwater fish was respectively 1 million dan, 515,000 dan and 14,000 dan. The output of clams topped the previous year by more than 20,000 dan. [OW290219 Fuzhou FUJIAN RIBAO in Chinese 15 Jan 82 p 1]

SPRING FARMING CONFERENCE--The Fujian Provincial CCP Committee and the provincial people's government held a telephone conference on the evening of 9 February, calling on all localities to do a good job in spring farming. The conference was presided over by Jin Zhaodian, secretary of the provincial CCP Committee. A speech was delivered by (Wen Xiushan), Standing Committee member of the provincial CCP Committee and chairman of the provincial Agricultural Commission. According to the conference, several problems presently exist in the province, such as smuggling, speculation and an unreasonable drop in grain crop acreage. To correct these problems, party committees and governments in all localities were asked to strengthen leadership and adopt effective measures. Among other things, the conference urged that every effort be made to ensure the fulfillment of the grain crop sowing plan and the grain production target set for this year. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 10 Feb 82]

CSO: 4007/247

BRIEFS

CATTLE INCREASE--There were new developments in rural Guangdong last year in the cattle raising industry. The total number of cattle raised was 4,123,600 head compared to 2 years ago an increase of 174,000 head or 4.4 percent. This averages out to be one head of cattle per 2.3 farm household. The 1,101,200 head of cattle raised by Zhanjiang Prefecture last year represented an 11 percent increase over the highest levels of year before last. Since the last 2 years, every place in the province has adopted a series of policies and measures for the development of the cattle raising industry. In addition to extending credit in support of collectives and those private individuals who raised their own cattle, the science of raising cattle and the improvement of the breed were also vigorously promoted. As a result, the rate of cattle breeding, survival of calves, rate of moving beef cattle out of inventory and marketability of products have all improved greatly. Following the further implementation of the agricultural production responsibility system, many places have put into practice the raising of farm cattle on a household basis, thus effectively mobilizing zealously the enthusiasm of the masses for raising cattle and generally raising cattle that are both well fed and strong. [Text] [Guangzhou NANFANG RIBAO in Chinese 5 Jan 82 p 1]

TREE PLANTING--Guangzhou, 1 Mar (XINHUA)--Deputies attending the fourth session of the Fifth Guangdong Provincial People's Congress took the lead in planting trees at Baiyunshan Mountain's Daguling and Hongmiao nursery on the outskirts of Guangzhou on 1 March. Leading comrades of the Guangdong Provincial CCP Committee, provincial people's congress Standing Committee and provincial people's government Ren Zhongyi, Liu Tianfu, Liang Lingguang, Li Jiangzhen and Wu Lengxi joined the deputies in planting trees. The fourth session of the Fifth Guangdong Provincial People's Congress, which opened on 23 February, ended 1 March. The session adopted the resolutions on launching the national voluntary tree-planting campaign and "all-people civility and courtesy month" activities. [Text] [OWO31609 Beijing XINHUA Domestic Service in Chinese 1546 GMT 1 Mar 82]

CSO: 4007/257

GUANGXI

BRIEFS

TREE PLANTING--Leading comrades of the party and government in Guangxi and cadres of the regional organs planted trees in a Nanning park on 20 February. Among those participating were Qiao Xiaoquang, Qin Yingji, Huang Rong, Zhou Guangchun, Xiao Han, Zhang Shengzhen and Mo Naiqun. [HK210249 Nanning Guangxi Regional Service in Mandarin 1100 GMT 20 Feb 82]

CSO: 4007/257

BRIEFS

TREE PLANTING--Leaders of the provincial CCP committee, people's congress Standing Committee, government and CPPCC and 1,200 provincial organ cadres planted trees at a tourist spot by the Huanghe on 27 February. Participating were Liu Jie, first secretary of the provincial CCP committee and chairman of the provincial people's congress Standing Committee; governor Dai Suli; provincial CPPCC chairman Zhao Wenfu; Song Yuxi, member of the provincial CCP committee Standing Committee, and others. [HK280333 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 27 Feb 82]

CSO: 4007/257

BRIEFS

RURAL SYSTEMS MEETING--Provincial CCP committee secretary Wang Zhiguo pointed out at a provincial forum on agricultural production responsibility systems on 28 February: Under current conditions, the large-scale changes in the agricultural production responsibility systems are already over. The various types of responsibility system should be stabilized. The province should gradually perfect the systems in the course of organizing this year's production. Comrade Wang Zhiguo said: Whatever type of responsibility system is adopted, it is necessary to use the contract form and define the rights, responsibilities, interests and duties of both parties. The plans for agriculture, forestry, animal husbandry, sideline occupations and fisheries, planned parenthood work, and the state procurement tasks must all be defined by the contract form. It is necessary to ensure that the contracts are fulfilled. The production teams must be responsible to the state, while the peasants must be responsible to the production teams. It is necessary to bring into play the enthusiasm of the agrotechnicians and support the technicians in signing contracts for technical work. The provincial forum on agricultural production responsibility systems was held in Hanshou County from 24 to 28 February. Responsible comrades of rural offices of all prefectures and municipalities and of provincial units concerned attended. Provincial CCP committee secretaries Wang Zhiguo and Dong Zhiwen took part. [Excerpts] [HK040343 Changsha Hunan Provincial Service in Mandarin 1100 GMT 3 Mar 82]

CSO: 4007/257

BRIEFS

WINTER FIELD MANAGEMENT--As of 14 January Jiangsu's 36 million mu over-winter crops of wheat and rape have been fertilized once. [OW201408 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 16 Jan 82]

PEASANT INCOME--According to a XINHUA RIBAO 31 January report, distribution of income among commune members has been completed in 98 percent of the production teams in Jiangsu. The total amount of income distributed among commune members in the province in 1981 increased by 9.6 percent over that in 1980. Grain rations to each commune member increased by about 20 jin, and per capita income of commune members increased by about 19 yuan in 1981. [OW030049 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 30 Jan 82]

XU JIATUN PLANTS TREES--Braving spring drizzles, the responsible comrades of the provincial CCP Committee and its subordinate departments, committees and offices took part in voluntary tree-planting in the courtyard of the provincial CCP Committee building on the afternoon of 20 February. They were joined by more than 1,000 provincial cadres and personnel. Responsible comrades of the provincial CCP Committee Xu Jiatun, Hu Hong, Han Peixin, Chu Jiang, Zhou Ze, Xu Fangcheng and (Luo Ruiran) have been engaged in this voluntary labor service for the past four Saturday afternoons since the spring festival. They were joined by cadres and personnel of other departments concerned with great enthusiasm. Besides improving the environmental sanitation, they planted cinnamon blossoms, winter-sweets and daffodils and 1,200 trees on the hill slope. Nearly 20,000 box wood trees were also transplanted along the road. [Text] [OW220232 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 20 Feb 82]

CSO: 4007/247

BRIEFS

FORESTRY ACHIEVEMENTS--State forest farms across Nei Monggol scored new achievements in forestry construction in 1981. According to statistics, state forest farms afforested 1.54 million mu of land, overfulfilling the 1981 annual afforestation target by 6.5 percent. In addition, the 56 state forest farms in Ju Ud League fulfilled a forest output value of 2 million yuan and netted 500,000 yuan. [SK302207 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 29 Jan 82]

CAMEL PRODUCTION--Camel production has been promoted in Ulanqab League of Nei Monggol after the institution of responsibility systems. The league had 14,400 camels by the end of 1981. Compared with 1980, the young camel survival rate, the percentage of grown female camels and the camel consumption rate increased by 3.9, 1.7 and 0.3 percent, respectively. [SK170559 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 16 Feb 82]

LAMB PRODUCTION--As of 10 February, Ih Ju League had delivered 680,000 lambs, a 200,000-head increase over the corresponding 1981 period. The survival rate was 90 percent. [SK141130 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 13 Feb 82]

CSO: 4007/247

BRIEFS

TREE PLANTING--Shaanxi Provincial CCP Committee first secretary Ma Wenrui and secretary and governor Yu Mingtao took part in planting trees with CYL members and young staff of the provincial CCP committee's general office on 2 March. Comrade Ma Wenrui urged the young people to march in the forefront of the civility and courtesy drive. [HK050307 Xian Shaanxi Provincial Service in Mandarin 2300 GMT 4 Mar 82]

CSO: 4007/257

INCREASE IN HOG PRODUCTION URGED

SK270224 Jinan Shandong Provincial Service in Mandarin 2300 GMT 25 Feb 82

[Excerpts] According to our sources, the provincial people's government recently issued a circular urging all localities to resolutely implement hog raising policies to promote hog production.

The circular states: Since the fourth quarter of 1981, hog production has declined in our province. Compared with the beginning of 1981, the number of hogs in stock declined by 12 percent at the end of the year. The number of sows in stock declined by about 8 percent compared with previous normal years.

The circular states: Developing hog production is an important measure for ensuring meat supplies, stabilizing urban and rural markets, promoting industrial and agricultural production, improving the agricultural structure and increasing the people's income. It is an important issue affecting the whole national economic situation. Governments at all levels must genuinely place hog production on the agenda and grasp the work well.

In the circular, the provincial people's government reiterated four policies for hog development which all hog raisers must adhere to:

1. Regardless of what form of management system the production teams have adopted, they must adhere to the policy of granting animal-feed to hog raisers according to the weight of the hogs they have raised.
2. The state policy of awarding cloth coupons and animal-feed to those who have overfulfilled the hog procurement quotas will be guaranteed. The policy of awarding 15 jin of standard chemical fertilizer to communes for selling one hog to the state will be extended to all hog raisers. Whoever sells hogs to the state will receive the above amount of standard chemical fertilizer. This policy will be effective as of February.
3. Effective February, special-grade hogs may be procured at special prices.
4. Boar and sow raising must be developed in a planned way. Reckless castration or slaughter of pigs are not permitted.

CSO: 4007/247

BRIEFS

BAI RUBING TOURS FORESTRY EXHIBIT--According to our reporter, in order to promote the voluntarily tree planting campaign, Shandong Province sponsored an exhibition on forestry science and technology at the provincial exhibition hall in Jinan on 26 February. Among those visiting the exhibition were responsible comrades of the provincial CCP Committee, the provincial people's government, the Jinan PLA units and the provincial military district, including Bai Rubing, Li Zhen, Zhao Bing'an, (Zhang Guiyao), Song Yimin and (Zhou Zhenxin), and personnel of the provincial Afforestation Committee. The exhibition is full of materials and elaborate illustrations concerning our province's prosperous future and systematically introduces the important role played by forestry in human life, social civilization and national construction. The exhibition also introduces the experience gained by our province in forest management and in breeding major saplings suitable to our area, major achievements scored in conducting forestry scientific and technological research over the past few years and technology applied by our province in popularizing these research results. The exhibition will certainly play an active role in promoting the campaign to voluntarily plant trees. [Text] [SK270933 Jinan Shandong Provincial Service in Mandarin 2300 GMT 26 Feb 82]

CSO: 4007/247

SHANGHAI

CHEN GUODONG PROMOTES TREE PLANTING

OW271315 Shanghai City Service in Mandarin 1130 GMT 26 Feb 82

[Text] The Shanghai Municipal People's Government held a mobilization meeting at the culture square this afternoon to promote a voluntary tree-planting drive in Shanghai. At the meeting, all people in Shanghai were urged to take immediate action and actively take part in the drive to make Shanghai a green city.

Over 10,000 people attended the meeting. They included leading comrades of the Shanghai Municipal CCP Committee, the municipal People's Congress Standing Committee, the municipal people's government and the municipal CPPCC Committee Chen Guodong, Wang Daohan, Han Zheyi, Shong Min, Xia Zhengnong, Chen Yi, Wang Tao, Liu Jingji, We Ruolan, Wang Jian, Yang Kai, Yang Di, Song Richang and Jing Renqiu; leading comrades of the PLA units stationed in Shanghai Wang Jingkun, Zhang Chen, (Guo Huayao), (Xu Guozhen), (Zhang Ruiren) and (Zhang Deliang); and representatives of various mass organizations and fronts.

The (Qinghu Liantang) commune of Yangpu ward in Congming County, the Shanghai high-pressure oil pump plant, the (Dong Xin Chun) neighborhood in Putuo municipal ward and the (Guangxin) Road No 2 primary school introduced their experience in tree planting.

Mayor Wang Daohan gave a mobilization speech, and Vice Mayor Yang Kai gave specific instructions on current afforestation work in Shanghai. The meeting also relayed the important instructions issued by the central leading comrades on afforestation work in Shanghai.

The meeting pointed out: Leaders should personally take charge of the all-people voluntary tree-planting drive. Rural and urban units should set specific targets according to their conditions. In urban areas, trees should be planted along the streets and especially in vacant lots. More trees should be planted in parks, tourist spots and historical sites as well as along paved roads. Factories, schools, hospitals, new housing areas and neighborhoods should also make their surroundings green according to their specific conditions.

CSO: 4007/247

BRIEFS

DIVERSIFIED RURAL ECONOMY--Beijing, 7 Feb (XINHUA)--Agricultural output value in Zhejiang Province reached 8,747 million yuan in 1981. Of this, a record-breaking 5,336 million yuan came from products other than grain and this was 200 million yuan more than in 1980, the local statistical bureau said and the figure does not include output of commune-run factories. Zhejiang ranked first in the country in having 61 percent of agricultural output derived from nongrain crops. Last year, Zhejiang peasants harvested 86,000 tons of tea, 65,400 tons of silk cocoons, 115,000 tons of oranges and 42,500 tons of tea-oil tree seed and caught 72,500 tons of fresh water fish, all records. In the past 3 years, the province has put 247,000 hectares into cotton, tea, mulberry trees, oranges, jute, amary hemp, timber trees, bamboo, tung oil trees and Chinese tallow trees. Peasants have also begun raising angora rabbits, cultured pearls and edible fungus. [Beijing XINHUA in English 0703 GMT 7 Feb 82]

GRAIN PRODUCTION--The masses in Jiaxing Prefecture, Zhejiang Province, will plant 3.51 million mu of early rice this year, increasing by 120,000 mu over that of last year. [Beijing Domestic Service in Mandarin 1200 GMT 25 Feb 82 OW]

CSO:~ 4007/251

Agriculture

AUTHOR: YAN Yurui [0917 5148 3843]
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ORG: All of the Department of Plant Polyploidy, Institute of Crop Breeding and Cultivation, Chinese Academy of Agricultural Sciences

TITLE: "On the Dwarfing Genes of Octoploid Triticale. I. Types of Frequency Distribution of Plant Height"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 6, 20 Dec 81 pp 1-11

TEXT OF ENGLISH ABSTRACT: The dwarf or semidwarf plants of octoploid triticale were isolated from h353, a cross combination between a primary strain WR614 as the female parent and a selected F_4 plant of another cross h42. However, both of their parents are tall plants. Since 1970, the dwarf plants segregated from the progenies of h353 have been used extensively in cross combinations for breeding purposes. The inheritance of the dwarfness of octoploid triticale is quite complicated. The frequency distributions of plant height of 47 plant lines of F_2 to F_7 progenies have been analyzed genetically. It is proposed that three kinds of genes are involved in the expression of triticale plant height. First, there are two pairs of complementary dominant genes for dwarfness. Second, there is a dominant gene for tall

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 20 Dec 81 pp 1-11]

straw. Third, a set of polygenes with minor effects are involved in the continuous distribution of plant height. The frequency distribution of plant height of each plant line is explained as the result of the proper interaction of the major gene or genes with the polygenic minor effects. The probabilities for most of the plant lines are adequate by the test of goodness of fit.

AUTHOR: REN Zhenglong [0117 2973 7127]
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ORG: Both of Sichuan Agricultural College

TITLE: "Varietal Differences of Filling Rate and Relative Growth Rate of Wheat Grain and Dry Matter Accumulation after Anthesis in Wheat"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 6, 20 Dec 81 pp 12-20

TEXT OF ENGLISH ABSTRACT: Varietal differences in several physiological characteristics of grain development and dry matter accumulation after flowering in wheat were studied by using the cubic polynomial model. It was found from the seven cultivars tested during two years that the correlation between the grain weight and the maximum value of grain ($r = 0.9134 - 0.9532$) was significantly positive. The bigger grain volume resulted from the higher relative growth rate of grain within 15 days after anthesis.

The filling index was responsible for the grain weight which was in turn dependent on the filling rate. The difference of filling indices was due to the transporting rate of photosynthetic products to the grain. By quantitative comparison of "sink" and "source," it may be concluded that the limiting factor or factors of yield in different cultivars are quite different, and the "transportation" was an important one.

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 20 Dec 81 pp 12-20]

Significant varietal differences were observed in filling indices, mean filling rate per unit of grain volume, leaf area duration (LAD), and mean net assimilation rate (NAR).

The seven cultivars may be classified accordingly into two or three types by the Scott-Knott cluster analysis method, and these types exhibited similar trends for two years. These results showed that genetic improvement of these characteristics should be effective.

AUTHOR: WAN Anliang [8001 1344 5328]
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ORG: Both of the Institute of Crop Sciences, Sichuan Academy of Agricultural Sciences

TITLE: "Studies on the Relationship between the Flag Leaf Area and the Panicle Weight in Rice Cultivars"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 20 Dec 81 pp 21-28

TEXT OF ENGLISH ABSTRACT: A series of experiments on the relationship between flag leaf area and panicle weight for rice cultivars was carried out from 1977 to 1979. The conclusions drawn from the analysis of about 700 rice cultivars are as follows:

- 1) A very significant correlation ($r = 0.65$) is found between flag leaf area and panicle weight. The distribution of the flag leaf area per gram of panicle is quite concentrated and relatively stable. In certain circumstances it is in negative correlation with the grain yield of the cultivars, and sometimes it even reaches a significant level statistically.
- 2) At the heading stage the total leaf area constituted by the upper most five leaves of the stem for most cultivars shows that the second and third leaves are larger than the rest, e.g., the so-called "Pi-deng" type; a part of the cultivars shows that the third leaves are the largest ones and the leaves either above or

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 20 Dec 81 pp 21-28]

below them gradually become smaller and smaller, e.g., the so-called "spindle" type; a few cultivars show that the upper two leaves are the largest ones, e.g., the "Pseudo-cup" type. The first two types, particularly the spindle type, are closely related to the high yielding ability of the cultivars.

- 3) At the milky stage the top five leaves play a more important role in the ripening of the seeds. In sequence, the upper leaves rank higher in importance than the lower ones. According to the panicle weight measured by the unit leaf area, the larger the leaf area the smaller the panicle weight, and the reverse is just as true.

- 4) The dry weight per square centimeter of leaf area varies among different cultivars. Generally the greatest difference occurs during the heading stage, and the dry weights of the upper leaves are usually larger than the lower ones. This characteristic of the cultivars has only an insignificant positive correlation with their corresponding yielding ability.

AUTHOR: YANG Yansheng [2799 3508 3932]
SUN Yichu [1327 0110 2806]

ORG: Both of the Sugar Beet Institute, Chinese Academy of Agricultural Sciences

TITLE: "Studies on the Improvement of Sugar Content and the Increased Disease Resistance in Tetraploid Sugar Beets"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 20 Dec 81 pp 29-32

TEXT OF ENGLISH ABSTRACT: Based on the field trials and previous breeding practices, two tetraploid varieties with high sugar content and disease resistance have been selected.

The tetraploid materials are the basis of polyploid breeding in the sugar beet (*Beta vulgaris* L.). A polyploid hybrid with high heterosis can be selected if a combination of excellent tetraploid and appropriate diploid parents is available.

Crossing between tetraploid parents is one of the important methods for improving the sugar content, increasing the disease resistance mainly to cercospora leaf spot of beets (*Cercospora beticola* Sacc.) and root rot, and partially stabilizing the heterosis of polyploid hybrids.

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 20 Dec 81 pp 29-32]

It is important to select with directive succession in polyploid breeding. It will stimulate the accumulation of the profitable genes. In this way not only will the excellent variations be preserved and the unprofitable ones be eliminated, but also the yield will be raised, the quality improved and the disease-resistance increased.

AUTHOR: GU Zifen [7357 5261 1164]
ZHU Qingsen [2612 1987 2773]
CAO Xianzu [2580 7359 4371]

ORG: All of Jiangsu Agricultural College

TITLE: "Studies on the Grain Ripening Rate of Rice--The Relationship between the Accumulation of Dry Weight in Vigorous and Weak Spikelets and the Distribution of Sterile, Abortive Kernels"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 6, 20 Dec 81 pp 38-44

TEXT OF ENGLISH ABSTRACT: The hybrid rice "Nanyou No 3" and its male parent variety "IR661" were used as experimental materials in 1979. Their plants were grown under natural conditions and the vigorous and weak spikelets were strictly labeled. A method for weighing was adopted, while the accumulation of dry grain weight and the formation of sterile, abortive or plump kernels were observed by stages. The results showed that the vigorous, fertilized spikelets of two varieties had rapidly gained weight after flowering, while there was only little or even no increment of weight in the weak, fertilized spikelets, nevertheless most of them still had vitality and maintained their filling ability for a long time. When the peak of weight gain of vigorous spikelets began to decline the weak

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 20 Dec 81 pp 38-44]

spikelets started to gain weight rapidly. The filling process for the accumulation of dry weight among the vigorous and weak spikelets exhibited a so-called "Staircase" style.

The study also showed that there was no essential difference in the grain ripening rates between the two varieties' vigorous spikelets.

AUTHOR: MIAO Guoyuan [5379 2654 0954]
ZOU Quanxiang [6760 2938 4382]
WANG Lizhong [3769 3810 1813]

ORG: All of Shanxi Agricultural University

TITLE: "Effect of P and K Fertilizers on the Yield of Winter Wheat in Infertile Arid Land"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 6, 20 Dec 81 pp 45-49

TEXT OF ENGLISH ABSTRACT: Experiments were carried out under a variety of field conditions. Results are as follows:

1. In loess plateau the principal limiting factors of wheat yield are the deficiency of P in limestone soil and the lack of K in soil of carbonate concretions. They are also inhibitors of the effectiveness of the N applied.
2. In infertile arid land with a yield of wheat of less than 100 jin/mu when 70 jin/mu of P has been applied, the residual effect can remain up to the next two crop seasons in addition to the immediate effect of that very year.
3. The causes of increasing yield by the application of P and K are that the growths of tillers, roots and leaves during the seedling stage are all beneficial to the formation of healthy plants. During the regrowth in the next spring, no early

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 20 Dec 81 pp 45-49]

senescence is observed and a higher rate of heading resulted, with an increase of 50,000-100,000 spikes/mu. Early maturing and normal senescence are also observed in the late stage. This is an efficient way of increasing yields of wheat in arid or semiarid lands.

4. From the standpoint of reduction of cost and effective use of P, it is better to apply P in those arid lands which are poor in soil fertility and with a yield of less than 200 jin/mu.

AUTHOR: LIAO Zongzu [1675 1350 2469]
ZHENG Junlan [6774 0193 5695]

ORG: Both of the Agrometeorological Laboratory, Chinese Academy of Agricultural Sciences

TITLE: "Influence of Soil Temperature on the Potassium Element in Soil and in Corn Seedlings"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 20 Dec 81 pp 56-64

TEXT OF ENGLISH ABSTRACT: Based on a series of experiments on soil temperature control, the influence of soil temperature on the exchangeable K^+ in soil and in corn seedlings, as well as on the dry matter weight of the plant, was evaluated. Results of the experiments showed that the soil temperature exerted a stronger effect on the dry matter weight of corn seedlings than on the K^+ within a suitable range of soil temperatures. The experiments also showed that there was a positive correlation between the concentration of water-soluble K^+ and the soil temperature. This observation provided evidence for the application of potassium to prevent low temperature damage on corn.

AUTHOR: WANG Faming [3769 3127 2494]
CHEN Yuling [7115 3022 5376]
YIN Shangzhi [3009 1424 2535]
et al.

ORG: All of the Plant Protection Institute, Jiangsu Academy of Agricultural Sciences

TITLE: "Study on the Serotypes of *Xanthomonas campestris* pv. *oryzae* Isolated from Leaf Blight of Rice in China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 6, 20 Dec 81 pp 71-77

TEXT OF ENGLISH ABSTRACT: It was found that there are two different serotypes among the 278 isolates of *Xanthomonas campestris* pv. *oryzae* collected from different rice regions in China, as tested by the reverse indirect hemagglutination test and confirmed later by the tube agglutination and agar diffusion methods. Of these isolates, 273 belong to serotype I which is distributed widely in China, and the remaining 5 belong to serotype II which is found south of the Changjiang River, especially in Guangdong, Yunnan and Jiangsu (Nanjing) provinces, as well as the Guangxi Zhuang Autonomous Region. It seems that the pathogenicity of these isolates of serotype I inoculated by the clipping method is greater than that of serotype II in certain rice varieties.

AUTHOR: HUANG Changbing [7806 2490 3521]
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et al.

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TITLE: "Oral Administration of the Live Vaccine Against Swine Paratyphoid"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese
No 6, 20 Dec 81 pp 89-94

TEXT OF ENGLISH ABSTRACT: In order to cope with the postvaccination reactions induced by subcutaneous inoculation of live vaccines against swine paratyphoid in some areas, a study of the oral administration of vaccines was carried out. The results were as follows:

(1) Pigs 60 days of age administered doses of 5×10^9 live cells orally showed no signs of reaction, while among those with doses of $5 \times 10^{10} - 1 \times 10^{11}$ live cells, a few pigs showed only transient febrile reaction with no influence on appetite and body weight gain ($p > 0.05$). Pigs receiving per os 1×10^{11} live cells of the lyophilized vaccine with low survival rate of organisms (33 percent) showed that the toxinogenic reaction of the vaccine was significantly reduced when compared with those vaccinated subcutaneously.

[Continuation of ZHONGGUO NONGYE KEXUE No 6, 20 Dec 81 pp 89-94]

(2) One hundred twenty-six pigs were challenged intravenously with virulent strains of *Salmonella choleraesuis* after oral administration of the vaccine, and the protection rates varied with the immunizing doses, which gave 95.6 percent, 76.3 percent, 70 percent, 71.4 percent and 53.3 percent protection by $2.5 - 3 \times 10^9$, 2×10^9 , $1.3 - 1.5 \times 10^9$, $7.6 - 10 \times 10^8$ and $3-6 \times 10^8$ live cells respectively.

(3) Field trials were carried out in different areas with more than 10 breeds of pigs. The dose used in oral administration was $2.5 - 3 \times 10^9$ live cells. No post-vaccination reactions were observed.

9717

CSO: 4011/16

Forestry

AUTHOR: None

ORG: Wood Preservation Division, Institute of Wood Industry, Chinese Academy of Forestry; Termite Constraint Group, District of Construction, Guangzhou Railway Administration

TITLE: "Test on Natural Resistance of Some Important Chinese Timber against Termites"

SOURCE: Beijing LINYE KEJI [SCIENTIA SILVAE SINICAE] in Chinese No 4, 1981 pp 379-387

TEXT OF ENGLISH ABSTRACT: Natural resistance of 165 timber species (141 hardwood species and 24 softwood species) against termites, *Reticulitermes chinensis* Snyder, was determined by both laboratory and field tests. Their natural resistance can be arranged as follows:

Fokienia hodginsii, *Madhuca hainansensis*, *Eucalyptus camaldulensis*, *Cassia siamea*, *Homalium hainanense*, *Robinia pseudoacacia*, *Tectona grandis*, *Toona sureni*, etc., are designated as having "no wood damage."

Pinus kwangtungensis, *Acacia auriculaeformis*, *Averrhoa carambola*, *Castanopsis hystrix*, *Castanopsis sclerophylla*, *Cinnamomum camphora*, etc., are designated as having "light wood damage."

[Continuation of LINYE KEJI No 4, 1981 pp 379-387]

Larix gmelinii, *Pinus koraiensis*, *Acer davidii*, *Albizzia chinensis*, *Albizzia julibrissin*, *Castanopsis carlesii*, etc., are designated as having "moderate wood damage."

Picea likiangensis, *Pinus yunnanensis*, *Ailanthus altissima*, *Alniphyllum fortunei*, *Alnus nepalensis*, *Betula alnoides*, etc., are designated as having "heavy wood damage."

9717

CSO: 4007/263

Geology

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TITLE: "Discussion on the Regularity of Phreatic Water Movement in the Region of Loessial Plateau"

SOURCE: Beijing SHUIWENDIZHI GONGCHENGDI ZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 1, 15 Jan 82 pp 1-7

ABSTRACT: The state of existence and the movement principle of groundwater in the loessial layer have been the subject of debates for many years. In 1978, the authors and the Research Institute of Hydrogeology and Engineering Geology arranged an experiment in the vicinity of Qingyang County to pump water from a group of observation holes pre-aligned in a given direction. Based upon the results certain new understandings were proposed (SHUIWENDIZHI GONGCHENGDI ZHI No 3, 1979). To carry on the study further, several groups of multi-hole pumping tests were again organized in Pingling, Zhenyuan, and Lingtai Counties. Results of these new experiments led the authors to conclude that the aquifer of the loess is primarily pore-crevasse water, conducted through fissures, which have mostly been filled by powdery soil. The powdery soil is easily removed in the pumping process to result in an increased water conductivity of the fissures and an expansion of the range of effect of the well. The productivity difference of neighboring wells is, in fact, a difference in fissure development of these wells. This paper was received for publication in Jan 80.

AUTHOR: None

ORG: Teaching and Research Group of Agricultural Water Conservancy, Department of Water Conservancy, Qinghua University

TITLE: "Determination of Parameter of Moisture Movement in the Unsaturated Soil"

SOURCE: Beijing SHUIWENDIZHI GONGCHENGDI ZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 1, 15 Jan 82 pp 8-15, 19

ABSTRACT: Since the 50's, there has been a great deal of development in the application of energy viewpoint to the study of moisture movement in unsaturated soil (the zone of aeration.) The theory is applied to produce quantitative analysis of soil moisture movement to obtain solutions of basic equations, i.e. such basic parameters as moisture conduction rate (also called permeability coefficient of soil,) diffusion, and relative moisture capacity. Moreover, the relative energy of soil and water and the specific curves of moisture are also among the important contents. This paper introduces the tensiometer technique of determining the moisture specific curve of soil, and the horizontal soil column method and the vertical soil column method of nonstable flow determination of parameters. Equipment requirements for these techniques, the theories, and the procedures are explained. Sample tests using clay, red loam, loam, and sandy loam are analyzed.

AUTHOR: HUANG Mingmin [7806 2494 2404]

ORG: Beijing Hydrogeology and Engineering Geology Team

TITLE: "Trend Analysis and Period Analysis of Long Term Variation of Groundwater Level"

SOURCE: Beijing SHUIWENDIZHI GONGCHENGDI ZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 1, 15 Jan 82 pp 23-25

ABSTRACT: With the large quantity of mining and utilization of groundwater in the cities, the principle and future trend of variation of groundwater table are becoming urgent and timely subjects of study for the goal of preventing the exhaustion of groundwater resources, deterioration of water quality, ground surface subsidence, and related problems. This paper reports a study using methods of trend analysis and periodicity analysis to provide a quantitative description of the regularity and trend of multi-year water table variation, based upon historical data of the water table of the western suburb of Beijing, accumulated in the past 2 decades. The technique of statistical analysis of long term water table data is demonstrated. Due to limited space, the long term, continuous water table data of the various observation holes are not furnished in their entirety. This paper was received for publication in Apr 80.

AUTHOR: WANG Rui [3679 6904]

ORG: None

TITLE: "On the Formation of Karst Depression Column in the Region of North China"

SOURCE: Beijing SHUIWENDIZHI GONGCHENGDI ZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 1, 15 Jan 82 pp 37-41

ABSTRACT: Cave-in is a common phenomenon in a karst region. Based upon the geological condition of the overlying strata, the following types of karst depressions are known in China: (1) The Quaternary loose materials fall with the retreat of groundwater to cause funnel-shaped ground surface depression; (2) With no overlying material, the karst stratum itself collapses to form an aven, a funnel, or a small karst depression; (3) With an overlying stratum of hard and insoluble rocks, a karst depression column is formed. The third type is the subject of discussion of this paper. This type has also been known as local disturbance or round fault. As these depression columns are being continuously discovered in North China, their morphology, structure, and genesis are being better understood. This paper attempts to provide a comprehensive discourse of all these aspects, including the economic and geological significance of depression columns. There is also a map detailing the distribution of depression columns in North China.

6248

CSO: 4011/5

System Engineering

AUTHOR: XU Guangsen [6079 1639 2773]

ORG: None

TITLE: "Preliminary Research of Systematic Engineering Method in Evaluation of Groundwater Resources"

SOURCE: Beijing GONGCHENG KANCHA [ENGINEERING SURVEYING] in Chinese No 1, 22 Jan 82 pp 55-58

ABSTRACT: System engineering is a new science, receiving a great deal of attention here and abroad in the past decade. Due to the fact that it can be used broadly to resolve problems, it has been applied in many realms. On the basis of quantitative analysis of the relationship between the system and its components, an optimum measure is found to reach a given goal reasonably. If all water resources of the globe, including surface water, groundwater, precipitation, etc. are regarded as a large system, groundwater resources form its component system. Such contents as social objectives, mining, management, technology, economics should also be regarded as components to establish a structural model for the groundwater system. This system engineering technique of evaluating groundwater resources is illustrated by data of a certain area located in the lower reaches of Huanghe in the alluvial plain of the bend. Due to large scale irrigation without drainage since

[continuation of GONGCHENG KANCHA No 1, 1982 pp 55-58]

the 50's, problems of rising groundwater table and soil salinization have occurred. The area of the irrigation district is about 7 million mu; the permeability coefficient is 6.5 m/day; the groundwater reserve is about 3.6 million m³; the yearly evaporation is 2,370mm; the water is mainly sodium magnesium bicarbonate type; the mineralization is < 3 g/l except for individual sections. Since 1974, various provincial, prefecture, and local organizations have jointly established experimental stations to study the problem. A solution is proposed to reduce the quantity of water drawn from Huanghe, to drill wells to drain the water, and in fresh-water areas to drill wells to mine the water for irrigation. The process of using all the data for computation to arrive at the decision of using well water for irrigation as the solution is reported.

AUTHOR: WANG Dongyun [3076 2639 0061]

ORG: Chongqing College of Construction Engineering

TITLE: "Analysis of Source of Groundwater Recharge in Guanzhong Basin"

SOURCE: Beijing GONGCHENG KANCHA [ENGINEERING SURVEY] in Chinese No 1, 22 Jan 82
pp 59-62

ABSTRACT: The Guanzhong basin is located in the middle of Shaanxi Province. It has mountains on 3 sides and is flat and open on the east side, with a relative difference of 400-1000m in elevation between the plain and the surrounding mountains. The Quaternary system is the most important aquifer which is the source of water supply for the industries and the people of the basin. This paper analyzes quantitatively the following sources of recharge for the groundwater of the basin: (1) Vertical infiltration of atmospheric precipitation; (2) Stream water percolation; (3) Artificial surface stream [drainage channels] percolation; (4) Pressure-bearing aquifer [artesian or confined aquifer;] (5) Bedrock crevasse water. The manner and the quantity of recharge from each of the 5 sources are analyzed in separate sections of the paper.

6248

CSO: 4011/6

Veterinary Medicine

AUTHOR: CHEN Yanji [7115 5888 1015]

ORG: Chenzhou Branch, Hunan College of Agriculture

TITLE: "Buckwheat Poisoning in Piglets"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE]
in Chinese No 12, 2 Dec 81 pp 8-9

ABSTRACT: The Chenzhou Prefecture Tea Farm had a herd of sows and 31 suckling piglets. In the middle of May 80, the piglets became sick one by one and six died. In front of the pig sty, the 7-8 mu of buckwheat was blooming and the piglets were seen feeding themselves freely in the field. The days of May-Jun of that year were bright and sunny and the sick piglets all had red rashes on their skin. This happened to be a herd of York hybrid white pigs. Following dissection of the dead ones and a thorough examination of the symptoms and surroundings, a diagnosis of buckwheat poisoning was made. Antiallergic drugs, antibiotics, and Diphenhydraminum were administered to the sick which were locked in dark rooms and given as much sugar water as they cared to drink. All recovered in 7-8 days. The Phylloerythrin content of every part of the buckwheat plant can cause white skinned animals, especially pigs and sheep, to develop an allergic reaction to light, and the skin rash occurs with other functional impediments of the central nervous system and the digestive system, although the actual poisoning mechanism of raw buckwheat is not yet entirely understood.

AUTHOR: ZHOU Liangxun [0719 5328 7460]

ORG: Nantong Municipal Animal Husbandry Farm, Jiangsu Province

TITLE: "Cause, Diagnosis, and Surgical Treatment of Displacement of Abomasum in Dairy Cattle"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE]
in Chinese No 12, 2 Dec 81 pp 19-21

ABSTRACT: In recent years, in some regions of China, displacement of abomasum has become a frequent occurrence to dairy cows. Among the 450 heads of the farm, the incidence was 1.33 percent in the period from Mar 80 to Feb 81. Of the six coming down with this disease (including one case of recurrence) one died of it and one was replaced. Surgical treatment was successful for the remaining four. At present, there are 2 theories concerning its pathogenesis: gaseous distention or mechanical action. Based upon the experience of these 6 cases, the author believes that pregnancy, birth of young, insufficient and/or rough feed may have caused the abomasum to be loose or to function less than normal and the sudden drop of the rumen due to birth of a calf, a fall, or fast running etc. easily causes the distended abomasum to turn over. Important symptoms serving as the bases of diagnosis and the surgical procedure are introduced.

AUTHOR: YANG Jizong [2799 4949 1350]
ZHANG Fengshan [1728 1496 1472]

ORG: Both of Zhejiang Provincial Academy of Agricultural Sciences

TITLE: "Amoscanate in the Treatment of Schistosomiasis in Farm Cattle: A Review"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE]
in Chinese No 12, 2 Dec 81 pp 34-39

ABSTRACT: This paper summarizes results of experiments with artificially infested yellow oxen or water buffalos carried out in Hubei, Hunan, Jiangsu, Shanghai, Zhejiang, Sichuan, Anhui, Yunnan, Jiangxi provinces (cities) to test the effect of Amoscanate (4-Isothiocynato-4'-nitrodiphenylamine) for the treatment of schistosomiasis. Five application procedures are tested: fine powder administered orally, fine powder mixed in vegetable oil applied orally, muscular injection of amoscanate dimethyl sulfoxide, intravenous and muscular injection of DMA solution of amoscanate, or intravenous injection of water suspension of fine amoscanate powder. Oral administration of the drug is the most ideal but very large doses are required. Intravenous injection of a water suspension uses only 1/30 to 1/50 of the drug but there are side effects. The DMA solution appears to be too unstable for safe storage and application. Due to the fact that dimethyl sulfoxide is very quickly absorbed, the amoscanate content stays in the muscle after injection; therefore, the treatment effect is poor and the unabsorbed amoscanate crystalline precipitates in the muscle may cause undesirable results. The pesticidal mechanism of the drug, its toxicity, and its metabolic process in experimental animals (small white mice) are also among the subjects studied.

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